Docum nt ID	I u Dat	Pag	Titl
7	US 5560100 A	19961001	15	Systems and method for automatic disassembly
8	US 5443534 A	19950822	37	Providing electronic components for circuity assembly
9	US 5379514 A	19950110	7	Electronic component installing apparatu and method
10	US 5339248 A	19940816	16	Apparatus for mounting electronic component on substrate
11	US 5314223 A	19940524	16	Vacuum placement system and method, and tool for use therein
12	US 5249356 A	19931005	8	Method and apparatus for mounting electronic component
13	US 5233745 A	19930810	9	Electronic-component mounting apparatus with monitoring device
14	US 5172468 A	19921222	18	Mounting apparatus for electronic parts
15	US 4995157 A	19910226	13	Component feeder system

	Curr nt OR	Curr nt XR f	R tri val Cla sif	Inv ntor
7	29/833	29/712; 29/720; 29/740; 29/741		Englert, Klaus
8	29/593	29/610.1; 29/740; 29/835; 29/836		Vinciarelli, Patrizio et al.
9	29/833	29/740		Okuda, Osamu et al.
10	700/121	29/740; 29/743; 716/19		Fujiwara, Muneyoshi et al.
11	294/64.1	29/743; 29/758		Harper, Jr., Donald K. et al.
12	29/833	29/740; 29/741; 29/759		Okuda, Osamu et al.
13	29/705	29/740; 29/743; 29/833		Morita, Takeshi
14	29/721	29/740; 29/743; 29/833		Tanaka, Satoru et al.
15	29/740	198/385; 198/390; 198/399; 29/759; 29/834		Hall, Douglas R.

Docum nt ID	I ue Dat	Pages	Titl
1	US 5894657 A	19990420	23	Mounting apparatus for electronic component
2	US 5864944 A	19990202	19	Mounting apparatus of electronic components and mounting methods f th same
3	US 5727311 A	19980317	22	Method and apparatus for mounting component
4	US 5694219 A	19971202	15	Device recognizing method and apparatus for surface mounting device mount r
5	US 5619328 A	19970408	13	Component mounter and recognition method
6	US 5566447 A	19961022	13	Pick-up point correction device for mounter

	Current OR	Current XRef	Retrieval Classif	Inventor
1	29/740	29/721; 29/741; 29/743; 901/40		Kanayama, Shinji et al.
2	29/833	29/712; 29/721; 29/740; 29/743; 294/64.1; 356/152.2; 414/737; 414/749.3; 702/104; 702/94; 901/47		Kashiwagi, Yasuhiro et al.
3	29/832	29/740; 29/759		Ida, Akiko et al.
4	356/615	29/720; 29/759; 29/834; 356/400		Kim, Hyo Won
5	356/621	356/638		Sakurai, Hiroshi
6	29/832	29/709; 29/711; 29/740		Sakurai, Hiroshi

	Titl	Curr nt OR	Curr nt XR f
1	Electronic component mounting apparatus	29/720	29/705; 29/741; 29/833
2	Electrical component placing apparatus and method of placing electrical component	29/834	228/180.21; 29/740; 29/833
3	Apparatus for and method of automatically mounting electronic component on printed circuit board	29/833	221/289; 269/903; 29/740; 29/840
4	Chip mounting apparatus	29/740	29/720; 29/833; 29/846
5	Vision system apparatus and method for component/pad alignment	29/834	228/4.5; 250/225; 29/759; 29/833; 356/400
6	Method and apparatus for chip placement	29/833	29/720; 29/740; 29/759; 414/730; 700/259; 706/912; 901/40; 901/47

	Titl	Curr nt OR	Curr nt XR f
7	Method for soldering electronic component	29/840	219/121.63; 228/180.21; 29/833
8	Electronic parts automatic mounting apparatus	29/721	29/740; 29/743; 29/833; 356/615

	U	⊿	Document ID	I su Dat	Pag s	Titl
1	☐	☐	US 5115559 A	19920526	9	Electronic component mounting apparatus
2	☐	☐	US 5086559 A	19920211	11	Electrical component placing apparatus and method of placing electrical component
3	☐	☐	US 5084962 A	19920204	38	Apparatus for and method of automatically mounting electronic component on printed circuit b ard
4	☐	☐	US 5084959 A	19920204	6	Chip mounting apparatus
5	☐	☐	US 5044072 A	19910903	7	Vision system apparatus and m thod f r component/pad alignment
6	☐	☐	US 4980971 A	19910101	17	Method and apparatus for chip plac ment

	Curr nt OR	Curr nt XRef	R trieval Classif	Inventor	S
1	29/720	29/705; 29/741; 29/833		Oyama, Kenshu	☒
2	29/834	228/180.21; 29/740; 29/833		Akatsuchi, Kazuyuki	☒
3	29/833	221/289; 269/903; 29/740; 29/840		Takahashi, Kuniaki et al.	☒
4	29/740	29/720; 29/833; 29/846		Ando, Tateo et al.	☒
5	29/834	228/4.5; 250/225; 29/759; 29/833; 356/400		Blais, Bruno et al.	☒
6	29/833	29/720; 29/740; 29/759; 414/730; 700/259; 706/912; 901/40; 901/47		Bartschat, Michael K. et al.	☒

	C	P	Imag Do . Di play d	PT
1	☐	☐	US 5115559	☐
2	☐	☐	US 5086559	☐
3	☐	☐	US 5084962	☐
4	☐	☐	US 5084959	☐
5	☐	☐	US 5044072	☐
6	☐	☐	US 4980971	☐

	U	1	Docum nt ID	I u Dat	Pag	Titl
7	☐	☐	US 4979290 A	19901225	8	Method for soldering electronic component
8	☐	☐	US 4951383 A	19900828	42	Electronic parts automatic mounting apparatus

	Curr nt OR	Curr nt XRef	R tri val Classif	Inv nt r	S
7	29/840	219/121.63; 228/180.21; 228/49.1; 29/833		Chiba, Koichi	☒
8	29/721	29/740; 29/743; 29/833; 356/615		Amao, Kenji et al.	☒

	C	P	Imag Doc. Di play d	PT
7	☐	☐	US 4979290	☐
8	☐	☐	US 4951383	☐

	Title	Current OR
1	Mounting apparatus for lectr nic comp n nt	29/740
2	Mounting apparatus of electronic components and mounting methods of the same	29/833
3	Method and apparatus for mounting component	29/832
4	Device recognizing method and apparatus for surface mounting device mounter	356/615
5	Component mounter and recognition method	356/621
6	Pick-up point correction device for mounter	29/832
7	Systems and method for automatic disassembly	29/833
8	Providing electronic components for circuity assembly	29/593
9	Electronic component installing apparatus and meth d	29/833
10	Apparatus f r mounting lectronic compon nt n substrate	700/121

	Current XRef
1	29/721; 29/741; 29/743; 901/40
2	29/712; 29/721; 29/740; 29/743; 294/64.1; 356/152.2; 414/737; 414/749.3; 702/104; 702/94; 901/47
3	29/740; 29/759
4	29/720; 29/759; 29/834; 356/400
5	356/638
6	29/709; 29/711; 29/740
7	29/712; 29/720; 29/740; 29/741
8	29/610.1; 29/740; 29/835; 29/836
9	29/740
10	29/740; 29/743; 716/19

	Title	Current R
11	Vacuum placem nt syst m and m thod, and t ol for use therein	294/64.1
12	Meth d and apparatus for mounting electronic component	29/833
13	Electronic-component mounting apparatus with monitoring device	29/705
14	Mounting apparatus for electronic parts	29/721
15	Component feeder system	29/740

	Current XRef
11	29/743; 29/758
12	29/740; 29/741; 29/759
13	29/740; 29/743; 29/833
14	29/740; 29/743; 29/833
15	198/385; 198/390; 198/399; 29/759; 29/834

L Number	Hits	Search Text	DB	Time stamp
1	1	29/832.ccls. and head and discard near box and mounting	USPAT; US-P PUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 14:20
2	2	29/$.ccls. and head and component adj discarding near box	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 14:25
3	15	("4995157" | "5172468" | "5233745" | "5249356" | "5314223" | "5339248" | "5379514" | "5443534" | "5560100" | "5566447" | "5619328" | "5694219" | "5727311" | "5864944" | "5894657").PN.	USPAT	2003/09/17 14:22
4	2	apparatus and component adj discarding near box	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 14:25
5	2	components adj discarding near box	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 14:29
6	0	20020073536.URPN.	USPAT	2003/09/17 14:28
7	3	component adj mounting and discarding near box	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 14:55
8	0	8195575.URPN.	USPAT	2003/09/17 14:54
9	38	component and discarding near box	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 14:55
10	1	1996-399518.NRAN.	DERWENT	2003/09/17 14:58
11	15	("4995157" | "5172468" | "5233745" | "5249356" | "5314223" | "5339248" | "5379514" | "5443534" | "5560100" | "5566447" | "5619328" | "5694219" | "5727311" | "5864944" | "5894657").PN.	USPAT	2003/09/17 14:59
12	8	("4951383" | "4979290" | "4980971" | "5044072" | "5084959" | "5084962" | "5086559" | "5115559").PN.	USPAT	2003/09/17 15:00

13	8	("4951383" | "4979290" | "4980971" | "5044072" | "5084959" | "5084962" | "5086559" | "5115559").PN.	USPAT	2003/09/17 15:02
-	0	compressing adj tool near cable and end adj connector	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 13:32
-	0	compressing adj tool near cable	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 13:32
-	0	compressing adj tool and body and handle and compress near member	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 13:33
-	31	compressing adj tool and body and handles	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 13:39
-	279	compressing adj tool	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 13:52
-	0	20020174538.URPN.	USPAT	2003/09/16 13:44
-	1	richard near Steiner. inv.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 14:24
-	21	richard near Steiner .inv.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 14:46
-	5	("2542201" | "3100334" | "4526070" | "5500998" | "6256923").PN.	USPAT	2003/09/16 14:27
-	5	("D352436" | "0941192" | "3540106" | "3686982" | "5165155").PN.	USPAT	2003/09/16 14:28
-	3	("3572189" | "0717800" | "2902759").PN.	USPAT	2003/09/16 14:44
-	16	3540106.URPN.	USPAT	2003/09/16 14:45
-	217	29/751.ccls. and connection and tool	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 14:53

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-	22	("2907040" | "2946368" | "3094774" | "3177567" | "3267565" | "3706219" | "3732718" | "3733674" | "3994090" | "4027368" | "4450621" | "4555847" | "4589271" | "4926685" | "4951369" | "5074031" | "5074142" | "5195352" | "5509194" | "5509291" | "5842371" | "5924322").PN.	USPAT	2003/09/16 14:49
-	6	("2519630" | "2752812" | "3157075" | "3170345" | "4526070" | "5280716").PN.	USPAT	2003/09/16 14:51
-	8	("2445480" | "3285107" | "3360068" | "4283933" | "4561282" | "4633558" | "4794780" | "4829805").PN.	USPAT	2003/09/16 14:52
-	172	29/758.ccls. and connection and tool	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 15:02
-	9	("2369180" | "2786095" | "3325885" | "3711942" | "4730385" | "5211049" | "5392508" | "5546653" | "5647119").PN.	USPAT	2003/09/16 14:54
-	9	("2369180" | "2786095" | "3325885" | "3711942" | "4730385" | "5211049" | "5392508" | "5546653" | "5647119").PN.	USPAT	2003/09/16 15:00
-	0	72/410.ccls. and connection and tool	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 15:03
-	3771	72/$.ccls. and connection and tool	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 15:03
-	67	72/409.01.ccls. and connection and tool	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 15:07
-	8	("3212317" | "3416212" | "3571888" | "3594887" | "3732718" | "3903725" | "3931671" | "4534107").PN.	USPAT	2003/09/16 15:05
-	34	72/409.14.ccls. and connection and tool	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 15:09
-	73	72/416.ccls. and connection and tool	USPAT; US-PGPUB; EP ; JPO; DERWENT; IBM_TDB	2003/09/16 15:21

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		18	81/313.ccls. and connecti n and to l	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 15:22
·		1	81/376.ccls. and c nnection and t ol	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 15:22
·		4	81/380.ccls. and connection and tool	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/16 15:22
·		22	("2907040" | "2946368" | "3094774" | "3177567" | "3267565" | "3706219" | "3732718" | "3733674" | "3994090" | "4027368" | "4450621" | "4555847" | "4589271" | "4926685" | "4951369" | "5074031" | "5074142" | "5195352" | "5509194" | "5509291" | "5842371" | "5924322").PN.	USPAT	2003/09/17 09:00
·		8	("2928299" | "2952174" | "3029670" | "3345856" | "3571888" | "3903725" | "4719789" | "5113727").PN.	USPAT	2003/09/17 09:04
·		2	6519838.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 11:47
·		15	("4995157" | "5172468" | "5233745" | "5249356" | "5314223" | "5339248" | "5379514" | "5443534" | "5560100" | "5566447" | "5619328" | "5694219" | "5727311" | "5864944" | "5894657").PN.	USPAT	2003/09/17 11:44
·		32	29/832.ccls. and mounting adj component near method	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 11:51

L Number	Hits	Search Text	DB	Time stamp
-	8	("2928299" | "2952174" | "3029670" | "3345856" | "3571888" | "3903725" | "4719789" | "5113727").PN.	USPAT	2003/09/17 09:04
-	2	6519838.pn.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 11:47
-	15	("4995157" | "5172468" | "5233745" | "5249356" | "5314223" | "5339248" | "5379514" | "5443534" | "5560100" | "5566447" | "5619328" | "5694219" | "5727311" | "5864944" | "5894657").PN.	USPAT	2003/09/17 11:44
-	32	29/832.ccls. and mounting adj component near method	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 11:51
-	1	29/832.ccls. and head and discard near box and mounting	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 14:20
-	2	29/$.ccls. and head and component adj discarding near box	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 14:25
-	15	("4995157" | "5172468" | "5233745" | "5249356" | "5314223" | "5339248" | "5379514" | "5443534" | "5560100" | "5566447" | "5619328" | "5694219" | "5727311" | "5864944" | "5894657").PN.	USPAT	2003/09/17 15:14
-	2	apparatus and component adj discarding near box	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 14:25
-	2	components adj discarding near box	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 14:29
-	0	20020073536.URPN.	USPAT	2003/09/17 14:28
-	3	comp nent adj m unting and discarding near box	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 14:55

-	0	8195575.URPN.	USPAT	2003/09/17 14:54
-	38	compon nt and discarding near box	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 14:55
-	1	1996-399518.NRAN.	DERWENT	2003/09/17 14:58
-	8	("4951383" | "4979290" | "4980971" | "5044072" | "5084959" | "5084962" | "5086559" | "5115559").PN.	USPAT	2003/09/17 15:00
-	8	("4951383" | "4979290" | "4980971" | "5044072" | "5084959" | "5084962" | "5086559" | "5115559").PN.	USPAT	2003/09/17 15:02
-	193	Okuda near Osamu.inv.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 16:05
-	13	Okuda near Osamu.inv. and 29/832.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 16:07
-	0	Okuda near Osamu.inv. and 294/2.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 16:07
-	4	Okuda near Osamu.inv. and 294/64.1.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/09/17 16:07